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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/534,411	05/11/2005	Michio Tsuyumoto	3273-0202PUS1	4477
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BIRCH STEWART KOLASCH & BIRCH PO BOX 747 FALLS CHURCH, VA 22040-0747				
			EXAMINER DESAI, ANISH P	
			ART UNIT	PAPER NUMBER

1771

DATE MAILED: 09/08/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/534,411

Applicant(s)

TSUYUMOTO ET AL.

Examiner

Anish Desai

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 May 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) 1-3 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 4 and 5 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>05/11/05</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Restriction is required under 35 U.S.C. 121 and 372.

This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1.

In accordance with 37 CFR 1.499, applicant is required, in reply to this action, to elect a single invention to which the claims must be restricted.

Group I claim(s) 1-3, drawn to a method for producing a porous film.

Group II, claim(s) 4-5, drawn to a porous film.

The inventions listed as Groups I, II do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons: The special technical feature of Group I invention is average surface pore size and average rate of hole area. The special technical feature of Group II is surface tension Sa and Sb, which is not present in the invention of Group I.

During a telephone conversation with Mr. Mark Weiner on 08/24/06 a provisional election was made with traverse to prosecute the invention of Group II, claims 4-5 drawn to a porous film. Affirmation of this election must be made by applicant in replying to this Office action. Claims 1-3 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 4 and 5 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which

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applicant regards as the invention. Claim 4 recites "average inside pore size" and "average rate of inside hole area", it is unclear as to what does applicant mean by "inside". Is the "inside" of the porous membrane relative to the surface of the porous membrane? Additionally it is unclear as to what applicant means by ^{rate of} "surface hole area"? For the purpose of the examination, the "hole area" is interpreted as porosity.

Claim Rejections - 35 USC § 102/103

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claim 4 is rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Derwent Abstract of JP 48-097774.

JP 48-097774 teaches a porous membrane having pores on both sides smaller than inside pores is used to condense of purify liquid materials. Further JP 48-097774 discloses a porous membrane having surface pore size of 0.3 microns and inside pore size of 0.9 microns. Thus, the ratio of surface pore size to inside pore size equates to 0.33. Although JP 48-097774 does not explicitly teach the average rate of surface hole

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area C (surface porosity) and average rate of inside hole area D, since porosity and pore diameter (pore size) are directly related, it is the examiner's position that the porous membrane of JP 48-097774 necessarily has the average rate of surface hole area C and the average rate of inside hole area D. Alternatively, since the invention of JP 48-097774 has the same utility (purification) as the presently claimed invention, the porous membrane of JP 48-097774 would have the average rate of surface hole area C (surface porosity) and average rate of inside hole area D (inside porosity) in order to successfully practice the claimed invention. Additionally regarding the limitation of continuous microspores, the membrane of JP 48-097774 would necessarily have the continuous microspores in order to successfully be used to purify liquid materials. With respect to the limitation of thickness of the porous film, JP 48-097774 teaches 0.1 mm (100 micrometer) thickness. Alternatively, since the invention of JP 48-097774 has the same utility (purification) as the presently claimed invention, the membrane of JP 48-097774 would have the thickness of 5 to 300 micrometer in order to successfully practice the claimed invention.

4. Claims 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Roy (US 3,929,971) in view of Kamide et al. (US 3,883,626).

Roy discloses synthetic material useful as biomaterial characterized by substantially uniform pore volume in the range from about 10% to about 90% and uniform pore diameter and substantially uniform pore connections or openings in the range of about 5 to 500 microns (claim 1). The synthetic material of Roy is ~~also~~ useful for manufacture of special filters, catalyst supports, and for the production of other

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special devices or structures which require a porous permeable microstructure having pore size in the range about 5-500 microns (column 3, lines 31-41). The synthetic material of Roy is in the form of a flat sheet (claim 23). The examiner is interpreting uniform pore diameter and uniform pore volume (porosity) as taught by Roy as the porous synthetic material having same pore diameter and same pore volume throughout the material. Thus, the ratio of the average surface pore size (A) to the average inside pore size (B) would be 1 and the ratio of average rate of surface hole area C (surface porosity) to the average rate of inside hole area D (inside porosity) would also be 1.

Roy is silent as to teaching of the thickness of the film in the range of 5 to 200 micrometer. However, Kamide teaches porous membrane useful in the filtration (column1, lines 5-15). The porous membrane of Kamide has thickness of 50-500 microns (micrometer) (column 4, lines 17-18). Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use the microporous synthetic sheet of Roy with the thickness as disclosed by Kamide, because it is known to select such thickness of microporous sheet when such sheet is used as filters.


Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anish Desai whose telephone number is 571-272-6467. The examiner can normally be reached on Monday-Friday, 8:00AM-4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on 571-272-1478. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

APD


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